

Amendments To The Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A plasma processing apparatus comprising:
a process chamber for processing by means of plasma;
microwave transmission means for transmitting microwave to said process chamber;
a dielectric for radiating the microwave transmitted by said microwave transmission means into said process chamber; and
a slot antenna plate formed of conductor, placed on a side, facing said process chamber, of said dielectric, and including an opening for passing the microwave therethrough radiated from said dielectric wherein said opening of said slot antenna has a longer side with its length equal to half the space wavelength of the microwave
wherein the microwave propagates perpendicularly to the surface of the dielectric and wherein the slot antenna plate does not support the dielectric.
2. (Original) The plasma processing apparatus according to claim 1, wherein said opening of said slot antenna plate is positioned directly below an antinode of a standing wave of the microwave in a resonator constituted of said microwave transmission means and said dielectric.
3. (Original) The plasma processing apparatus according to claim 1, wherein said slot antenna plate has its potential adjusted at a ground potential or a positive potential.
4. (Original) The plasma processing apparatus according to claim 1, wherein said slot antenna plate includes a channel for processing gas.
5. (Previously presented) The plasma processing apparatus according to claim 1, wherein the length of the longer side of the opening is varied depending on the size of the standing-wave distribution.